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EXAMINER

LOFFREDO, JUSTIN E

ART UNIT	PAPER NUMBER
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3744

NOTIFICATION DATE	DELIVERY MODE
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09/14/2009

ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

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Office Action Summary	Application No. 10/594,916	Applicant(s) YABU ET AL.	
	Examiner JUSTIN LOFFREDO	Art Unit 3744	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 22 May 2009.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-5, 7-13 and 16-24 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-5, 7-13 and 16-24 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 29 September 2006 and 22 May 2009 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>07/22/2009</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. The amendment filed May 05, 2009 has been entered. Claims 1-5, 7-13 and 16-24 remain pending in the application.

Drawings

2. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the switching mechanism recited in claim 1 must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as “amended.” If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either “Replacement Sheet” or “New Sheet” pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

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Claim Rejections - 35 USC § 112

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4. **Claims 8-13** are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Consider claims 8-12. The phrase “the thickness direction” included in each claim lacks antecedent basis and is also unclear in context since the meaning of “the thickness direction” is indefinite, i.e. it is not clear as to what is meant by “thickness direction”. For the purposes of examination the examiner has interpreted this limitation to mean - -a horizontal direction- -.

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

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This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

7. **Claims 1, 2, 4, 5 and 7-9** are rejected under 35 U.S.C. 103(a) as being unpatentable over Harushige (JP Pub. No. 2003314856).

Consider claim 1. Harushige discloses a humidity control system for supplying either one of a dehumidified first air stream and a humidified second air stream to an indoor space and for discharging the other air stream to an outdoor space, wherein: the humidity control system comprises: a refrigerant circuit (70) which includes first and second adsorbent-supported heat exchangers (62) & (65), respectively, which are fluidly connected in the refrigerant circuit (70); a box-shaped casing (11) internally having an air passageway (see Fig. 1) in which the heat exchangers (62) & (65) are disposed; an air supplying fan and an air exhausting fan disposed in the casing (11) (paragraph [0031]); a change mechanism (30) (corresponding to the claimed switching mechanism) capable of changing the distribution route of air in the casing (11) depending on the circulation direction of the refrigerant in the refrigerant circuit (70) so that the first air stream is passed through one of the heat exchangers (62) or (65) that is functioning as an evaporator while the second air stream is passed through the other heat exchanger that is functioning as a condenser; wherein the casing (11) has an internal space divided into a outdoor

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side space (40) (corresponding to the claimed first space) defined along a fan side lateral plate as a lateral plate of the casing (11), and a center space (50) and indoor side space (43) (which make up the remaining second space as claimed) (Fig. 1); wherein the air supplying fan and the air exhausting fan are disposed in the first space (40) (paragraph [0031]) and the first and second heat exchangers, (62) and (65), respectively, are disposed in the second space (Fig. 1); and a compressor (71) and a four-way switching valve (73) (corresponding to the claimed reversal mechanism) which are both disposed in the second space of the casing (11) (paragraphs [0007]-[0012] & [0064-0066], Figs. 1, 2, 9a & 9b).

While Harushige fails to explicitly disclose that the compressor and reversal mechanism are disposed between the air supplying fan and the air exhausting fan in the first space of the casing, at the time the invention was made it would have been an obvious matter of design choice to a person of ordinary skill in the art to position the compressor and reversal mechanism between the air supplying fan and the air exhausting fan in the first space of the humidity control system disclosed by Harushige because Applicant has not disclosed that doing so provides an new advantage, is used for a particular and unobvious purpose, or solves a newly stated problem. One of ordinary skill in the art, furthermore, would have expected the humidity control system disclosed by Harushige and applicant's invention to perform equally well with either the position of the compressor and reversal mechanism in the casing disclosed by Harushige or the compressor and reversal mechanism specifically disposed in the first space as claimed by Applicant because both configurations would perform the same function of controlling the humidity of air flowing through the casing equally well. Furthermore, Harushige discloses eliminating "dead space" in the casing, i.e. space not having any purpose or operative

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components contained therein, in order to miniaturize the humidity control system (paragraph [0056]), which is the same problem that Applicant intends to solve by placing the compressor and reversing mechanism in the first space of the casing.

Consider claim 2. Harushige discloses the invention as claimed, including that the refrigerant circuit (70) comprising compressor (71) is in humidity controller (10), and therefore in casing (11). Harushige fails to disclose the compressor being disposed in a space partitioned from the internal air passageway of the casing; however it would have been an obvious mechanical expedient to one of ordinary skill in the art at the time of the invention to place the compressor in a space partitioned from the air passageway in the casing in order to prevent any unwanted effects on the conditioned air flow to the interior resulting from emitted heat transferred from the compressor to the air flow. As evidenced by Hosoda et al., the casing (21) of an air conditioning apparatus has a compressor (36) therein, whereby the compressor (36) is disposed in a space (28) partitioned via partitions (24) and (25) from inboard space (26) and outboard space (27), which make up an internal air passageway of the casing (21), as claimed.

Consider claim 4. Harushige discloses that, in the casing (11), an outlet opening (14) and an inlet opening (16) are in fluid communication with the indoor space and an outlet opening (17) and an inlet opening (13) are in fluid communication with the outdoor space.

Harushige fails to specifically disclose ducts between each of the inlet and outlet openings; however it would have been an obvious mechanical expedient to one of ordinary skill in the art at the time of the invention to include ducts from the inlet and outlet openings in order to provide a guided passageway for the air to flow as is old and well known in the art. As evidenced by Kim (US Patent No. 5,911,751), an air guide duct (40) is incorporated into an air

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conditioning device (10) for guiding air blown by a fan (38) from an inlet (15) to an outlet (see Fig. 1 wherein the outlet is the opening including blades (42)) and into a conditioned space (col. 1, L 10-40; Fig. 1).

Consider claim 5. Harushige discloses that, in the casing (11), an outlet opening (14) and an inlet opening (16) are opened to provide direct fluid communication between the casing (11) and indoor space, and an outlet opening (17) and an inlet opening (13) are in fluid communication with outdoor space.

Harushige fails to specifically disclose ducts between the inlet and outlet openings; however it would have been an obvious mechanical expedient to one of ordinary skill in the art at the time of the invention to include ducts from the inlet and outlet openings in order to provide a guided passageway for the air to flow as is old and well known in the art. As evidenced by Kim (US Patent No. 5,911,751), an air guide duct (40) is incorporated into an air conditioning device (10) for guiding air blown by a fan (38) from an inlet (15) to an outlet (see Fig. 1 wherein the outlet is the opening including blades (42)) and into a conditioned space (col. 1, L 10-40; Fig. 1).

Consider claim 7. Harushige discloses the invention as claimed, including the refrigerant circuit (70) being established in the humidity controlled (i.e. in the casing) (see Fig. 1).

Harushige fails to disclose the compressor being disposed between the air supplying fan and the air exhausting fan in the first space of the casing; however it would have been an obvious mechanical expedient to one of ordinary skill in the art at the time of the invention to provide the compressor between the fans in the first space in order to provide a compact system and to prevent possible disturbance of the flow through the center space and across the heat exchanging element. As evidenced by Harushige (paragraph [0056]), it is advantageous to utilize “dead

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space” in the casing (11) of the humidity control system (10) in order to provide a miniaturized, compact system, which provides a rationale behind disposing the compressor between the air supplying fan and the air exhausting fan in the first space of the casing.

Consider claim 8. Harushige discloses that the casing (11) is shaped like a flattened box; and that the first and second heat exchangers (62) & (65), respectively, are arranged so as to allow the passage of air in a horizontal direction of the casing (11) (Figs. 1 & 2).

Consider claim 9. Harushige discloses that the casing (11) is shaped like a flattened box; and that the first and second heat exchangers (62) & (65), respectively, are arranged so as to allow the passage of air in a direction perpendicular to a horizontal direction of the casing (11) (Figs. 1 & 2).

8. **Claim 3** is rejected under 35 U.S.C. 103(a) as being unpatentable over Harushige (JP Pub. No. 2003314856) in view of Manz (US Patent No. 5,042,271).

Consider claim 3. Harushige discloses the invention as claimed, but fails to disclose the compressor being disposed in the internal air passageway of the casing. Manz teaches a compressor (22) being positioned in an air flow from fan (96) (col. 4, L 60-61). It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the humidity control system disclosed by Harushige to place the compressor in the air flow as taught by Manz in order to provide a means to cool the compressor, thereby reducing the likelihood of overheating.

9. **Claims 10-13** are rejected under 35 U.S.C. 103(a) as being unpatentable over Harushige (JP Pub. No. 2003314856) in view of Hosoda et al. (US Patent No. 3,805,542).

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Consider claim 10. Harushige discloses that the casing (11) is shaped like a flattened box (Fig. 1), and that the fans are capable of drawing in air from a lateral side of a fan casing and delivering the air forward (paragraph [0031]).

Harushige fails to disclose that the fans are multi-blade fans disposed such that the center axle of the impeller is oriented a horizontal direction of the casing. Hosoda et al. teach an air conditioning system employing a multi-blade type fan (2) having a casing (3) (col. 2, L 63-68; col. 3, L 1-5). It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the fans of the humidity control system disclosed by Harushige to be multi-blade fans as taught by Hosoda et al. such that the fans are disposed so that the center axle of the impeller is oriented in a horizontal direction of the casing in order to provide a means that is old and well known in the art of air conditioning to more effectively move air between the outside and the inside of an area by enabling air to flow through the inlet and outlet openings of the casing.

Consider claim 11. Harushige discloses: an air supplying opening (16) and an inside air inlet opening (17) which are in fluid communication with the indoor space and are provided in the room side panel (15) (i.e. one of lateral plates) of the casing (11) which are orthogonal to the fan side lateral plate, and an air exhausting opening (14) and an outside air inlet opening (13) which are in fluid communication with the outdoor space are provided in the outdoor side panel (12) (i.e. the other of the lateral plates); in the second space, the first heat exchanger (62) disposed above partition member (53) defining a first heat exchange chamber in which the first heat exchanger (62) is accommodated and the second heat exchanger (65) disposed below partition member (53) defining a second heat exchange chamber in which the second heat

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exchanger (65) is accommodated, the heat exchangers (62) and (65) being defined adjacently side by side in a direction orthogonal to the fan side lateral plate; and a flow path along the first air duct (51) between the outdoor side upper left opening (23) and the interior-of-a-room upper left opening (28) (i.e. a first inflow path) and a flow path along second air duct (52) between the outdoor side lower left opening (24) and the interior-of-a-room lower left opening (29) (i.e. a first outflow path) are provided which extend along one of continuous lateral surfaces of the two heat exchange chambers and which are superimposedly arranged in a horizontal direction of the casing (11); and a flow path along the first air duct (51) between the outdoor side upper right opening (21) and the interior-of-a-room upper right opening (26) (i.e. a second inflow path) and a flow path along the second air duct (52) between the outdoor side lower right opening (22) and the interior-of-a-room lower right opening (27) (i.e. a second outflow path) are provided which extend along the other of the continuous lateral surfaces of the two heat exchange chambers and which are superimposedly arranged in a horizontal direction of the casing (11); and the outflow paths are in fluid communication with the first space through fan side communication openings (“Detailed Description” paragraphs [0007]-[0031]; Figs. 1-3, 6, 9a & 9b).

Consider claim 12. Harushige discloses: an air supplying opening (16) in fluid communication with the indoor space and an air exhausting opening (14) in fluid communication with the outdoor space are provided in the fan side lateral plate of the casing (11) and an inside air inlet opening (17) and an outside air inlet opening (13) in the second space, the first heat exchanger (62) disposed above partition member (53) defining a first heat exchange chamber in which the first heat exchanger (62) is accommodated and the second heat exchanger (65) disposed below partition member (53) defining a second heat exchange chamber in which the

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second heat exchanger (65) is accommodated, the heat exchangers (62) and (65) being defined adjacently side by side in a longitudinal direction of the fan side lateral plate; and between one of continuous lateral surfaces of the two heat exchange chambers and the lateral plate opposite the fan side lateral plate and a flow path along the first air duct (51) between the outdoor side upper left opening (23) and the interior-of-a-room upper left opening (28) (i.e. a first inflow path) and a flow path along second air duct (52) between the outdoor side lower left opening (24) and the interior-of-a-room lower left opening (29) (i.e. a first outflow path) are provided which extend along one of continuous lateral surfaces of the two heat exchange chambers and which are superimposedly arranged in a horizontal direction of the casing (11); and a flow path along the first air duct (51) between the outdoor side upper right opening (21) and the interior-of-a-room upper right opening (26) (i.e. a second inflow path) and a flow path along the second air duct (52) between the outdoor side lower right opening (22) and the interior-of-a-room lower right opening (27) (i.e. a second outflow path) are provided which extend along the other of the continuous lateral surfaces of the two heat exchange chambers and which are superimposedly arranged in a horizontal direction of the casing (11); and the outflow paths are in fluid communication with the first space through fan side communication openings (“Detailed Description” paragraphs [0007]-[0031]; Figs. 1-3, 6, 9a & 9b).

While Harushige fails to disclose an inside air inlet opening and an outside air inlet opening being provided in a lateral plate opposite the fan side lateral plate, it would have been obvious to one of ordinary skill in the art at the time of the invention to provide an inside air inlet opening and an outside air inlet opening in a lateral plate opposite the fan side lateral plate in

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order to provide an alternative and adaptable embodiment of the casing to provide humidity control.

Consider claim 13. Harushige and Hosoda et al. disclose the invention as claimed, but fail to disclose that the air supplying fan, arranged such that a fan inlet opening is provided in the lateral side of the fan casing of the air supplying fan, faces either one of the fan side communication openings; and the air exhausting fan is arranged such that a fan inlet opening, provided in the lateral side of the fan casing of the air exhausting fan, faces the other of the fan side communication openings. It has been held, however, that the mere rearrangement of parts is an obvious matter of design choice, and an ordinary skilled artisan would have found it obvious at the time of the invention to produce the following arrangement: the air supplying fan, arranged such that a fan inlet opening is provided in the lateral side of the fan casing of the air supplying fan, faces either one of the fan side communication openings; and the air exhausting fan is arranged such that a fan inlet opening, provided in the lateral side of the fan casing of the air exhausting fan, faces the other of the fan side communication openings; in order to effectively supply air to the humidity control system.

10. **Claims 16-24** are rejected under 35 U.S.C. 103(a) as being unpatentable over Harushige (JP Pub. No. 2003314856) in view of Maeda et al. (US Patent No. 6,644,059 B2).

Consider claim 16. Harushige discloses first (62) and second (65) heat exchangers as previously discussed having outside-air inflow surfaces (Fig. 1).

Harushige fails to disclose an outdoor filter arranged and formed along the outside-air inflow surfaces of the heat exchangers. Maeda et al. teach a humidification control apparatus having a filter (502) (i.e. an outdoor filter) arranged and formed upstream of an air flow in front

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of (i.e. along the outside-air inflow surface) of condenser (220) (i.e. a heat exchanger) (col.11, L 45-65; Fig. 2). It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the first and second heat exchangers of the humidity control apparatus disclosed by Harushige to have filters upstream of the air flow as taught by Maeda et al. in order to prevent dust and other particulates from entering and causing harm to the system.

Additionally, it would have been obvious to one of ordinary skill in the art at the time of the invention to provide filters after the heat exchangers (i.e. downstream of the airflow after passing through the heat exchangers) in order to provide filtration (or additional filtration in the case that a filter is also provided before the heat exchanger) to the air flow to further eliminate any dust or particulates.

Consider claim 17. Harushige disclose a first air duct (51) (i.e. a first passageway) in which the first heat exchanger (62) is disposed and a second air duct (52) (i.e. a second passageway) in which the second heat exchanger (65) is disposed; formed in the casing (11) ("Detailed Description" paragraphs [0007]-[[0008]; Figs. 1-3).

While Harushige and Maeda et al. fail to disclose that the outdoor filter includes a first filter part disposed in the first passageway and a second filter part disposed in the second passageway, it would have been obvious to one of ordinary skill in the art at the time of the invention to arrange the filter into two parts in the first and second passageways in order to filter dust and unwanted particulates from both heat exchangers in the humidity control system.

Consider claim 18. Harushige and Maeda et al. disclose the invention as claimed, but fail to disclose the first and second filter parts being integral with each other, or the filter extending over the outside-air inflow surfaces of both the first and second heat exchangers. It would have

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been obvious, however, to one of ordinary skill in the art at the time of the invention to extend the filter over the outside-air inflow surfaces of both the first and second heat exchangers in order to effectively prevent dust and particulates from entering and causing harm to the system through either the first or second heat exchangers. Furthermore, it has been held that the use of a one piece construction instead of the structure disclosed in the prior art would be a matter of obvious engineering design choice (*In re Larson*, 340 F.2d 965, 968, 144 USPQ 347, 349 (CCPA 1965)); therefore it would have been obvious to one of ordinary skill in the art at the time of the invention to provide a filter with integral first and second filter parts in order to effectively eliminate dust and other particulates from passing through the heat exchangers while minimizing the number of parts required for system assembly.

Consider claim 19. Harushige discloses that in the casing (11) the first and second heat exchangers (62) & (65), respectively, are disposed adjacently to each other and the inflow surface of the first heat exchanger (62) and the inflow surface of the second heat exchanger (65) lie on the same plane (Figs. 1 & 2).

Consider claim 20. While Harushige and Maeda et al. fail to disclose the casing having a take out opening, it would have been an obvious mechanical expedient to one of ordinary skill in the art at the time of the invention to provide a take out opening in the casing in order to allow the filter to be easily cleaned and/or replaced as needed.

Consider claim 21. Harushige and Maeda et al. disclose that the humidity control system is capable of switching operation (i.e. via switching mechanism (30) – Harushige “Detailed Description” paragraph [0008]); operable to switch between a first operation in which outside air is capable of being distributed through the first filter part and then through the first heat

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exchanger (62) and is thereafter supplied to the indoor space while simultaneously room air is distributed first through the second heat exchanger (65) and then through the second filter part and is thereafter discharged to the outside space; and a second operation in which outside air is distributed first through the second filter part and then through the second heat exchanger (65) and is thereafter supplied to the indoor space while simultaneously room air is distributed first through the first heat exchanger (62) and then through the first filter part and is thereafter discharged to the outdoor space (“Detailed Description”; Figs. 1-3).

Consider claim 22. Harushige and Maeda et al. disclose that humidity control system is capable of switching operation (i.e. via switching mechanism (30) – Harushige “Detailed Description” paragraph [0008]); operable to switch its operation between a first operation in which outside air is distributed first through the first filter part and then through the first heat exchanger (62) and is thereafter supplied to the indoor space, then through the second heat exchanger (65), and then through the second filter part (124b) and is thereafter discharged to the outside space; and a second operation in which outside air is distributed first through the second filter part and then through the second heat exchanger (65) and is thereafter supplied to the indoor space, then through the first heat exchanger (62), and then through the first filter part and is thereafter discharged to the outdoor space (“Detailed Description”; Figs. 1-3).

While Harushige and Maeda et al. fail to disclose an indoor filter which is disposed in a passageway, where in the first operation room air is distributed first through the indoor filter, or where in the second operation room air is distributed first through the indoor filter, it would have been obvious to one of ordinary skill in the art at the time of the invention to provide an indoor

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filter in the passageway in order to prevent dust and particulates in the room air from passing through and possibly causing harm to the humidity control system.

Consider claim 23. Harushige discloses a first air duct (51) (i.e. a first passageway) in which the first heat exchanger (62) is disposed, a second air duct (52) (i.e. a second passageway) in which the second heat exchanger (65) is disposed, And spaces (41), (42), (43), (44) and (45) (i.e. room-air supplying passageways) formed in the casing (11) ("Detailed Description" paragraphs [0007]-[0008]; Figs. 1-3).

Harushige and Maeda et al. fail to disclose an indoor filter disposed in the room-air supplying passageway(s); however it would have been obvious to one of ordinary skill in the art at the time of the invention to provide an indoor filter in the room-air supplying passageway in order to prevent dust and particulates in the room air from passing through and possibly causing harm to the humidity control system.

Consider claim 24. Harushige discloses a first air duct (51) (i.e. a first passageway) in which the first heat exchanger (62) is disposed and a second air duct (52) (i.e. a second passageway) in which the second heat exchanger (65) is disposed being in the casing (11); a suction opening (16) which faces the indoor space in fluid connection with chamber room (45) (i.e. an air passageway) located nearer to the indoor space than the first (51) and second (52) passageways in the casing (11) ("Detailed Description" paragraphs [0007], [0008] & [0032]; Figs. 1-3).

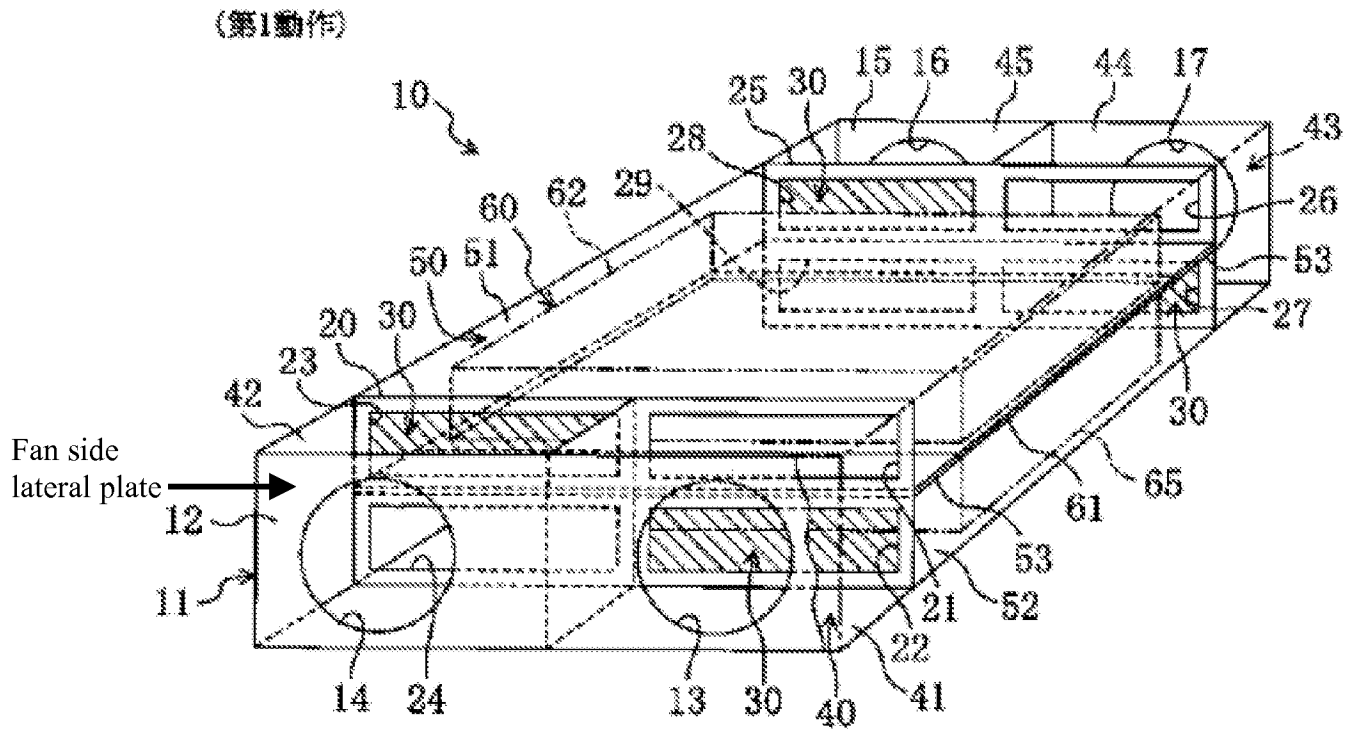
Harushige and Maeda et al. fail to disclose an indoor filter disposed in the vicinity of an opening part of the suction opening; however it would have been obvious to one of ordinary skill in the art at the time of the invention to provide an indoor filter in the vicinity of an opening part

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of the suction opening in order to prevent dust and particulates in the air flow from passing through and possibly causing harm to the humidity control system.

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Harushige – Figure 1



Response to Arguments

11. Applicant's arguments filed May 22, 2009 have been fully considered but they are not persuasive.

12. In response to applicants argument (Remarks, p. 12) regarding examiner's objection to the drawings that the switching element recited in claim 1 is clearly shown within the drawings and referenced as element (64) (see e.g. Fig. 1), examiner respectfully disagrees. Claim 1 recites "a switching mechanism" as well as "a reversal mechanism". In light of applicant's disclosure, examiner determined that element (64) refers to "a reversal mechanism" as claimed, and since "a switching mechanism" is claimed as a separate element from "a reversal mechanism", reference numeral (64) does not appear to refer to "a switching mechanism" as claimed. Furthermore, applicant discloses (paragraph [0012]) that a switching mechanism is incorporated in order to reverse the direction of *air* flowing through the humidity control system, whereas the reversal mechanism (64) is incorporated in order to reverse the direction of *refrigerant* flowing through the system (see e.g. applicant's disclosure, paragraph [0010]).

13. In response to applicant's argument (Remarks, p. 13) regarding the rejection of claims 8-12 under 35 USC § 112, second paragraph that due the inclusion of the recitation "the casing is shaped like a flattened box", the phrase "the thickness direction" is no longer unclear and thus the rejection should be withdrawn, the examiner respectfully disagrees. As set forth in the rejection of claims 8-13 under 35 USC § 112, second paragraph of the written office action, the phrase "the thickness direction" remains unclear in context since the meaning of "the thickness direction" is indefinite, i.e. it is not clear as to what is meant by "thickness direction". Therefore, examiner maintains the rejection of the claims.

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14. In response to applicant's argument (Remarks, p. 15) that Harushige's four-way switching valve (73) is simply a valve and does not anticipate an explicit reversal of a refrigerant flow through the refrigerant circuit, the examiner respectfully disagrees. Harushige clearly discloses that switching valve (73) allows the refrigerant flowing through the humidity control system to be selectively reversed depending on system operation (see paragraphs [0069-0074]; Figs. 9a & 9b).

15. In response to applicant's request (Remarks, p. 15) regarding claims 2, 4, 5 and 7 for the examiner to produce a secondary reference or other written evidence if the rejection of the claims is maintained, refer to the rejection of claims 2, 4, 5 and 7. The rejection of the claims is maintained and the examiner has provided secondary sources as requested by applicant.

16. In response to applicant's remarks regarding claim 10 (Remarks, p. 16) that even if relied upon, Hosoda et al. only show an air conditioning apparatus with a centrifugal blower in lieu of the axial blower to operate at a lower noise threshold; and the fan disclosed by Hosoda et al. requires a special spiral casing for the centrifugal blower such that the casing is separate from the apparatus, the examiner fails to clearly recognize how such remarks intend to show that the rejection of the claim as set forth by the examiner in the written office action is improper. If, in fact, the applicant is arguing that the combination of Harushige and Hosoda et al. as applied in the rejection of claims 10-13 is improper, refer to the rejection of claim 10 in which the examiner set forth the following:

“Consider claim 10. Harushige discloses that the casing (11) is shaped like a flattened box (Fig. 1), and that the fans are capable of drawing in air from a lateral side of a fan casing and delivering the air forward (paragraph [0031]).

Harushige fails to disclose that the fans are multi-blade fans disposed such that the center axle of the impeller is oriented a horizontal direction of the casing. Hosoda et al. teach an air conditioning system employing a multi-blade type fan (2) having a casing

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(3) (col. 2, L 63-68; col. 3, L 1-5). **It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the fans of the humidity control system disclosed by Harushige to be multi-blade fans as taught by Hosoda et al. such that the fans are disposed so that the center axle of the impeller is oriented in a horizontal direction of the casing in order to provide a means that is old and well known in the art of air conditioning to more effectively move air between the outside and the inside of an area by enabling air to flow through the inlet and outlet openings of the casing.”**

The examiner has set forth a reason for modifying the humidity control system disclosed by Harushige to incorporate the multi-blade fans taught by Hosoda et al., and therefore the rejections of claims 10-13 are maintained. Applicant should also note that in arguing against a reference individually, one cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); *In re Merck & Co.*, 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986).

Conclusion

17. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event,

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however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to JUSTIN LOFFREDO whose telephone number is (571) 270-7114. The examiner can normally be reached on M - F 7:30am - 5:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Cheryl Tyler and Frantz Jules can be reached on (571) 272-4834 and (571) 272-6681. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Cheryl J. Tyler/
Supervisory Patent Examiner, Art Unit 3744

/Justin Loffredo/
September 08, 2009